HUAN NGO

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Education

The University of Memphis	Memphis, TN
Doctor of Philosophy in Transportation Engineering. GPA: 4.0.	January 2019 – May 2023

The University of Memphis	Memphis, TN
Bachelor of Science in Civil Engineering. GPA: 3.8.	January 2017 – December 2018

Professional History

FedEx Ground   **Memphis, TN**
Transportation Research Intern   May – August 2022

- Researched into lanes that are sub-optimal. Proposed an optimization model using CPLEX to determine the optimal volume mixing, loading, and dispatching plan.
- Developed an easy-to-use business dashboard using R Shiny with effective visualizations and details on equipment balance between the Memphis hub and its partners.
- Calculated truck driver dwell time at facilities especially at meet points.
- Redesigned a vacant wash bay into a truck driver's lounge area and provided architectural drawing.
- Reorganized the Memphis hub yard including dedicated trailer spaces and improved traffic flow.

Center for Transportation Innovation, Education, and Research (C-TIER)   **Memphis, TN**
Research Assistant   January 2017 – Present

Identification of Simulation Calibration Parameters using Urban Freeway Data. *Sponsored by Tennessee Department of Transportation (TDOT).* 2022 – Present. Budget: $225,000.

- Calibrated parameters in traffic microsimulation software, specifically PTV VISSIM, based on existing TDOT's ITS urban freeway data collected from traffic sensors.
- Selected road segments in four major urban cities in Tennessee and developed simulation scenarios.

Investigation on Wrong-way Driving (WWD) Prevention Systems. *Sponsored by Tennessee Department of Transportation (TDOT).* 2019 – 2021. Budget: $225,000.

- Directed the project and compiled the final report, which recommends the best WWD prevention systems and outlines the methodology and procedures behind it.
- Coordinated between TDOT, company's technicians, and local contractors to schedule and execute Phase 1 and 2 of Closed-Court and Real-World Testing for these WWD prevention systems.
- Inquired private companies for available WWD prevention systems, negotiated rental agreements for real-world testing, and gained understanding of the technology and methodology behind it.
- Collected and analyzed WWD data in Tennessee from ETRIMS to infer potential causal factors.

Transit Asset Management (TAM). *Sponsored by Memphis Transit.* 2017–2023. Budget: $110,000 Annually.

- Administered and delivered the TAM Plan which includes a technical report, decision support tools, and routine progress presentations to MATA's board. These deliverables are repeated every year.
- Prepared funding proposals and reports for MATA such as the National Transit Database Narrative, Congestion Mitigation and Air Quality, and Capital Investment Project.

ARUP Vietnam   **Ho Chi Minh City, Vietnam**
Structural Engineering Intern   December 2017 – January 2018

- Performed modal analysis and calculated story deflection of a high rise externally braced building.
- Designed preliminary structural member cross sections of an exhibition house aiming on satisfy the deflection requirement under non-linear long-term cracked analysis. Analyzed internal force, determined beams reinforcement requirement, and simulated the structure with a 3D Revit model.

Publications and Proceedings

Ngo, H., Li, W., Mishra, S. (2022). Platooning of Mixed Autonomous Truck Fleet with Capacity and Time constraints using Multi-agent Reinforcement Learning. *Transportation Research Part E.* (Under Review).

Ngo, H., Mishra, S. (2022). Traffic Graph Convolutional Network for Dynamic Urban Travel Speed Estimation, *Network and Spatial Economic.* (Accepted and In Press). **(Impact Factor 2.903)**.

Ngo, H., Mishra, S. (2021). Carpooling and Repositioning Strategy for Mixed Autonomous Electric Taxi using Reinforcement Learning. *Transportation Research Part C: Emerging Technologies.* (Under Review).

Ngo, H., Mishra, S. (2021). Dispatching and Timely Repositioning Autonomous Taxi under Heterogenous Infrastructure. Compendium of Papers in 101st Annual Meeting of *Transportation Research Board*.

Ngo, H., Mishra, S., Kumar, A. (2020). Optimal Positioning of Dynamic Wireless Charging for Battery Electric Vehicles. *Transportation Research Part D: Transport and Environment,* 85. **(Impact Factor 7.041)**.

Mishra, S., **Ngo, H.**, Kumar, A. (2019) Dynamic Wireless Charging Planning for Electric Vehicles. Compendium of Papers in the 98th Annual Board Meeting of *Transportation Research Board.*

Ngo, H., Shah, R., Mishra, S. (2018). Optimal Asset Management Strategies for Mixed Transit Fleet. *Transportation Research Part A: Policy and Practice*, 117, pp. 103-166. **(Impact Factor 6.615)**.

Ngo, H., Shah, R., Mishra, S. (2017). Multicriteria Mixed Transit Fleet Resource Allocation. Compendium of Papers in 97th Annual Board Meeting of *Transportation Research Board*.

Technical Expertise

- Software: Power BI, AutoCAD Civil 3D, ArcGIS, Microsoft Suite, AutoCAD, Revit Structure, ETABS.
- Programming: Python, PostgreSQL, R, MATLAB, CPLEX, Hadoop, SAS.
- Familiar with: Machine Learning, Optimization, Vehicle Routing, Graph Convolution, Large Database, Parallel Computing, Statistical Modeling, AASHTO Geometric Design.

Honors and Awards

- Received Google Data Analytic Certification, 2022
- Received Herff Graduate Fellowship for Ph.D. student, University of Memphis, 2020 - 2022
- Received the Dr. T. S. Wu Award for the best transportation design in the Senior Design Course.
- Achieved Third Place in the Seismic Design Competition 2019 in Vancouver, BC Canada.
- Dean's List Academic Award Recipient, University of Memphis, all semesters from 2016 to 2018.
- Passed the Fundamental Engineering Exam, The State of Tennessee, 2017.
- ISEP Scholarship for Student Exchange Program, 2016.
- Ranked first in the Vietnam University Entrance Exam in and received a full scholarship, 2014.
- First Prize in Physic Competition in Ho Chi Minh City, 2013.

Participations

- Presented at the 101st , 97th, and 98th Transportation Research Board Meeting in Washington, DC.
- Presented at the 7th Annual UTC Conference, Florida Atlantic University, 2020.
- Participated in two consecutive EERI Seismic Design Competition in 2018 and 2019.
- Presented at the Annual Student Research and Work in Progress forums, Memphis, 2018.

Leaderships

- Scheduler at the Institute of Transportation Engineer, 2018.
- Scheduler of Tau Beta Pi Organization, 2017.
- Leader of the Student Recruitment Campaign team at Vietnam National University, 2015.
- Leader of the Civil Engineering Department Student Union at Vietnam National University, 2015.